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THE KEYSTONE

# Defender

5 No. 5

STATE COUNCIL OF CIVIL DEFENSE, HARRISBURG, PA.

MAY, 1956

## WHAT IS STATE POLICY?

### Good Health following floods

(Clip for future use)

The Pennsylvania State Department of Health has issued the following instructions for the protection of health in the home following the emergency.

#### Water

You and your family could get along for quite a while without food, if necessary, but you must have a safe water to drink.

It is dangerous to use water that has not been purified properly or officially approved. Drink only water that you know is safe. Water (whether from public supplies or makeshift sources) for drinking, washing, or cooking can be purified by one or another of the following methods:

1. *Boiling.* If it is possible to heat water (either on the stove or over a fire) this can be done by bringing the water in a kettle or pan to the boiling point and then continuing to boil the water for 20 minutes. The water then should be allowed to settle and the clear water poured off into another container.

2. *Chlorination.* (This is the method most generally used under ordinary circumstances in the purification process for public water supplies). When it is impossible, or not practical, to boil water, it can be chlorinated by the individual simply by adding common household bleaching solution or hygienic solutions (examples are Clorox, White Sail, Zonite, etc.) in the proper amounts, as described below.

It is advisable to keep on hand  $\frac{1}{2}$  gallon or more of bleaching solution or several pints of disinfectant solution for this purpose. Bleaching

solutions and disinfectant solutions can be purchased at grocery stores and drug stores.

Most bleaching solutions contain a 5% chlorine content (preferable). However, check the label to learn the strength of the solution. Some bleaching solutions may contain  $1\frac{1}{2}\%$  chlorine. If that is the case, use four times the following recommended amounts wherever bleaching solution is called for.

On the labels of most bottles of bleach or disinfectant solution there are definite instructions for using the solution to disinfect water. *You are advised to follow these instructions.*

In general, the following methods are recommended: Add 2 to 4 drops of the household bleach (or 20 drops of disinfectant solution) to every quart of "clear" water to be purified. (If the water appears "cloudy" or "murky" use three times this amount.)

Stir well, allow to stand for 30 minutes. A very noticeable chlorine smell from the water at the end of that time is a sign that the treated water then is safe for drinking.

If the smell is not present after 30 minutes, repeat the process and allow the water to stand an additional 15 minutes. If the smell of chlorine still is not noticeable it is possible that the solution may be old and thus too weak. In this case, repeat the procedure using a new bottle.

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## "SAGE"

By HANSON W. BALDWIN

(Reprinted from *The New York Times* by permission)

AIRMEN at electronic consoles are beginning to play the major motif in air defense.

In the nation's new system, called "SAGE", the interceptor pilot plays a second part. He virtually "goes along for the ride"; his plane is controlled electronically from the ground.

SAGE, an abbreviation for "Semi-automatic Ground Environment," is thus a new step toward the automation of war. The system was described by the Pentagon as revolutionizing air defense.

Scheduled nuclear tests in the Pacific in the spring are expected to include the firing of an air-to-air missile with a small nuclear warhead. Such a warhead, with a destructive force equivalent to 800 to 5,000 tons of TNT would insure destruction of any enemy bomber in a wide area from the point of detonation.

Hence, the present requirement for extreme accuracy of weapons is reduced and the expected "kill rate" or destruction rate increased. It is understood that weapons with nuclear warheads for use against aircraft are coming into production.

(Another step) will be represented by the Boeing Bomarc long-range intercepting missile and weapons of that type. Such supersonic missiles, with 100 to 200 mile ranges and reliable guidance systems, are still under development and will not be ready for production for some time. When they are available, they will increase still further effectiveness of the new air defense system.

A high theoretical kill rate then may be possible, but all experts agree there

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## Bucks Survival Commission

TO EXPEDITE the work of the Tri-State Civil Defense Study and Planning Commission, the Bucks County Council of Civil Defense recently appointed a commission of its own. Announced intent of this commission: "To furnish certain information to the Tri-State Civil Defense Study and Planning Commission, consisting of the Governors of Pennsylvania, New Jersey, Delaware." This information to be incorporated in the proposed Survival Plan for the Southeastern Pennsylvania-Southern New Jersey-Delaware Area.

Bucks Civil Defense Director Colonel A. M. Heritage named as chairman of this commission, Mr. John T. Welsh, President of the Board of County Commissioners. Others named as Directors included Commissioner Thomas R. Lewis, Commissioner Adolph A. Andrews, Claude Wolfinger, David Robson, H. N. Crooker, Rev. Edmund E. Bieber, Rev. James J. Vizard, Dr. Charles H. Boehm, Raymond Strunk, C. LeRoy Murray, Dr. H. Jackson Davis, Stuart A. Wilson, William F. Greenawalt and William S. Erwin.

A dinner was held recently for this commission, at which time Dr. Richard Gerstell, State Director of Civil Defense and Paul B. Hartenstein, Federal representative, were guest speakers.

The first phase of the Southeastern Pennsylvania-Southern New Jersey-Delaware survival plan is currently underway.

The firm of Day and Zimmerman, Philadelphia, has been given the Phase One study.

### COMMONWEALTH OF PENNSYLVANIA STATE COUNCIL OF CIVIL DEFENSE

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HON. HARRY SHAPIRO  
*Secretary of Welfare*

\* \* \*

DR. RICHARD GERSTELL, *Director*

Free subscriptions to this publication may be obtained by contacting your local civil defense director. Local civil defense directors write to: State Council of Civil Defense, Quakertown, Penna.

## THE ICE HYDRANT

GLEN MILLER, Moose Pass, Alaska, Civil Defense Fire Chief, has developed an ice hydrant, first of its kind, that can provide an emergency water supply for fire-fighting forces in those communities located near lakes and streams which are frozen over during winter months.

Mr. Miller's idea involves the use of diesel oil to keep a water hole open in the ice of a lake or stream. A 55-gallon oil drum, with both ends removed and supported by timbers, was inserted into a water hole. The drum was braced so that approximately 12 inches remained above the surface of the ice. Miller then poured 30 gallons of diesel oil into the drum. He calculated that this amount of oil would be necessary to extend the oil level through 18 inches of ice to the water level.

The ice hydrant project gained the support of James Kirkpatrick, Seward District CD Director, and Lyle Saxton, Moose Pass Area CD Director, and it was decided to test the device at Lake Hood near Anchorage.

After two successful tests, Anchorage CD officials report these details of the project, together with their recommendations:

In those areas faced with excessive icing, ice hydrant oil containers should consist of two 55-gallon drums welded together for a total length of 72 inches. Any sturdily constructed steel or iron cylinder such as 24-inch culvert pipe, will serve as well as 55-gallon drums.

By increasing the height of the oil column in the cylinder to 24 or 30 inches above the upper ice surface, sufficient oil pressure would be developed to reduce the degree of freezing below the oil level.

Twenty-foot lengths of four and one-half inch hard suction hose are more adaptable for use in an ice hydrant than ten-foot sections of four-inch hose. In pumping through an ice hydrant, the suction hose should be connected to the pump before passage through the oil cylinder into the water, in order to cut down or eliminate the intake of oil.

The degree of bend required to extend hard suction hose from a pumper through the ice hydrant indicates that an oil cylinder with a diameter of less than 24 inches would be impractical if not unworkable.

Hard suction hose to be inserted in the ice hydrant should be wrapped with masking tape as protection against oil damage. In the brief test, however, six feet of the exterior of

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### C.D. WORKERS HONORED

County Commissioners of Bucks County have memorialized civil defense workers who fought August, 1955 floods.

A bronze plaque has been placed at a corner of the courthouse, Doylestown, inscribed as follows:

"To those volunteers who under the direction and guidance of Bucks County Council of Civil Defense gave so tirelessly and generously of their efforts during the Delaware Valley disastrous flood in August 1955, we the elected commissioners of Bucks County bestow our gratitude."

Commissioners are John T. Welsh, Adolph Andrews and Thomas Lewis. The plaque was presented to Col. A. M. Heritage, Bucks C.D. director.

## Allentown Auxiliary Police

A RIGID training program is required of each prospective Auxiliary Policeman in the city of Allentown before he is sworn in, according to Chief P. F. Kunkel.

The course includes the approved State course in Police Procedure; Traffic Control Duty; First Aid; Pistol Training, and Civil Defense Orientation.

Not until such course is completed does the auxiliary get badge and uniform. The uniform consists of blue-grey coveralls, white shirt, white helmet, belt and leggings, black shoes and tie, and armband.

Only carefully-investigated members are accepted in Allentown's organization, Kunkel stated. Then the following principles are set out for auxiliaries:

To assist regular police in the most efficient manner;

Never replace regular police on any occasion for monetary compensation or take their places in a regular police assignment;

Always follow police assignments carefully and carry all assignments to completion; leave a post only when properly relieved;

Present a neat appearance at all times and serve the public in an efficient and courteous manner.

The group serves only at the call of the Civil Defense Director or Chief of Police of the city. Chief Kunkel is assisted by Asst. Chief G. E. Cowher and Captains William Dorschutz, F. Paul Williams, James A. Peters, Dominic Constantine, and Robert Martin.

Recently 34 of the members were sworn in by Allentown City Clerk George Kistler. Another 40 are expected to be sworn in as they complete training.



## Tales from Two Floods



This scene was taken in Warren during the flood emergency last March. Shown are civil defense workers unloading patients from an emergency ambulance and carrying them into the Armory building. Patients taken here were later released to their homes. More seriously ill were taken to the Warren State Hospital.



Paul M. Crown, Jr., Shawnee, a RACES amateur radio operator who functioned long hours without sleep during the August, 1955, flood in eastern Pennsylvania, recently received the Edison Award for his outstanding work. Pictured above are Crown, Award recipient, and R. P. Fisher, district sales manager for General Electric Tube Department.

### "Courageous Devotion"

A NEW CIVIL DEFENSE radio program has been proposed by Columbia Broadcasting System in cooperation with Federal Civil Defense Administration.

Tentatively titled "Courageous Devotion," the program would present, each week, the true story of an individual who has performed outstanding service for Civil Defense.

Theme for the case histories would not be restricted to action-packed tales

of heroism, advance information indicates. The individual who performs faithfully and well the day-to-day, sometimes-monotonous duties of civil defense also would be honored. And the case, according to FCDA, must not necessarily be of recent date.

Suggested case histories should be forwarded to the Audio-Visual Division, FCDA, Battle Creek, Michigan, giving name, address, telephone number and other pertinent data of proposed subject.

## ALERT DATE CHANGED

JUST ABOUT press time last month it was learned that the date of the much-discussed "Operation Alert 1956" had been changed from a date in June to the week of July 20-26.

Of the Alert itself: "President Eisenhower, the armed forces, and the Canadian government will participate, according to a joint announcement by the Office of Defense Mobilization, the Department of Defense, and FCDA. It will be a combined CD and government evacuation exercise similar to but larger than last year's evacuation of skeletonized Federal agencies to secret re-location sites."

There will be simulated "strikes" on 63 population centers of the United States, Alaska, Hawaii, Puerto Rico and the Canal Zone, as well as nine air bases and four installations of the Atomic Energy Commission.

In the Commonwealth, "strikes" will be as follows:

Allentown-Bethlehem-Easton, three 100 kiloton bombs; Erie, one megaton; Lancaster, 100 kiloton; Pittsburgh, two megaton bombs.

Reading, 100 kiloton; Philadelphia, two megaton bombs, one five megaton, and one kiloton; Wilkes-Barre and Hazleton, 20 kiloton; York, 100 kiloton, and Johnstown, 20 kiloton.

Further details of Commonwealth participation will be announced by the State Council of Civil Defense.

### IMPORTANT ANNOUNCEMENT

A surprise public participation test, state-wide, will be held by the State Council of Civil Defense. The date: sometime between June 1 and 10, 1956. It will be the first use of the new Federal "Alert" and "Take Cover" signals, state-wide.

### IN NEXT ISSUE

The "Bell-and-Light System"—the story of the Commonwealth's automatic air raid warning system—and how Civil Defense Directors may aid in its effectiveness.

Added Information on the New State-wide Signals as announced briefly in this issue.

Articles on Civil Defense work during tornadoes; at a disastrous hotel fire in Warren; more on Medical Civil Defense.

Remember, local civil defense news is always welcome for use in THE KEYSTONE DEFENDER.



# LOWER MERION ORGANIZES SELF-PROTECTION UNITS

THE IDEA of "Self-protection Groups" has caught hold in Lower Merion Township, according to the recent announcement of Civil Defense Executive Director, Admiral D. M. McGurl.

The Self-Protection Unit is to be the township's basic civil defense organization. Positions of leadership include Captain, Co-Captain, several Wardens and Alternates, First-Aiders, Medics, Auxiliary Police, Fire Fighters, Messengers and Sanitation workers.

The idea is, that these leaders will train citizens within the area covered by the "unit," in their particular specialized fields, using CD texts.

This "unit," points out Mrs. Alfred M. Watts, who, with son Stephen, did much of the organization work, is the "first helping hand in the event of an emergency, either natural or man-made."

In setting up Self-Protection Units, Mrs. Watts first of all breaks down a territory into compact zones, a "unit" to a zone. Then follows a necessary, tedious task—a census of this territory, one of the basic Warden jobs.

Mrs. Watts says "The census information is so thorough that we can designate a dry basement in the area for use as a shelter and we are able to list all available station wagons and gas stoves. All of this data is mimeographed and sent to each house within the unit area, along with a notice of the first group meeting."

Leaders are chosen wherever possible from citizens of the area involved. Then instruction meetings follow—lectures on basic first aid; new artificial respiration, pressure points, applications of tourniquet; illustrated talks by firemen on the essentials of home fire fighting; emergency sanitation measures.

Self-Protection Units were suggested three years ago by Admiral McGurl but only recently has the program begun to "move." Now, Mrs. Watts is acting as an advisor in the establishment of "units" throughout the township. There are now 26 Self-Protection Units within Lower Merion Township.

It is felt that an article by Sir John Hodsoll, of NATO Civil Defense which reads in part as follows illustrates the value of these Self-Protection Units:

"In the last war a tremendous amount was done by the community to help themselves, especially in fire fighting. I always remember a street in London, in Hammersmith, in which practically every house had been hit by two or three incendiary bombs. Not

one of those houses was destroyed or seriously damaged, simply because all the householders dealt with the situation immediately, helped each other and got all the fire extinguished before they could really catch hold. Some of the methods used were a bit unorthodox, to say the least of it; but these people saved their houses and their street.

"There will of course be large numbers of people who will be added to the Civil Defense services in an emergency, but even so there must rest a primary responsibility on all householders, even if they are only renting one room in an apartment, to do what they can to ease the burden on the trained forces.

"We have just discussed elementary fire fighting, which means a stirrup pump or even something a little larger, which could be manned by a small team of householders. But that is only one aspect of self-help.

"Another is first aid. If all householders—and teenagers too—could learn a little elementary first aid and have a small first-aid box in their home, they could be of great help in dealing with minor injuries—and perhaps even help to save life—and thus avoid calling on trained personnel who, in any case, may not be available for some long time.

"Again, in the last war, householders used to combine together and set up small first aid points in their streets. This meant that one house in the street had someone a little better trained than the rest in first aid, and a room in that house equipped with some quite simple first aid equipment which served the needs of the street or block or even of a single building. This is common practice in most factories, and something which should become common practice in peacetime everywhere.

"During the critical period of the war of survival, the distribution of food may be difficult and the normal means of cooking may be disrupted. In the United States they are advocating that every household should keep a small stock of essential foods—enough in fact to last for seven days. A detailed description of the US suggestion is included later in this Bulletin. They have also given much publicity to what they call 'Grandma's Pantry.'

"Here again, then, is another form of 'self-help' of great importance. If every family could be self-contained in this respect for a week, think what a relief that would be; and how it would

give time for an emergency supply system to be organized.

"Then there is the question of cooking. It is not difficult, with a few simple materials, to improvise a cooker—perhaps for the whole street or for a part of a block or set of apartments. If one hot meal a day could be organized in this way, a big survival problem might be solved. A very little training is all that is required, and I have myself enjoyed many excellent meals ranging from grey squirrel soup, the humble but ever useful and filling stew to roast chicken produced in a dustbin.

"A further means of 'self-help' can be cleansing. People caught out in a fall-out cloud, or contaminated by war gas, should be responsible for their own cleansing, either at home or again, perhaps, on some communal basis; that is, in some room with suitable cleansing facilities in a street, block or apartment.

"Depending, naturally, on the location and suitability of the home and on other factors, a home shelter may be another important addition to self-help and to the security of the household. It will clearly be an excellent contribution to its self-sufficiency, which is the real object of self-help. There will inevitably be various instructions to be followed by householders in regard to black-out, warnings and other matters. But whatever action is required, the household should try and carry it out themselves; or, if that is impossible, with the help of neighbours in the street or block or whatever it may be. In fact, on this communal basis it might be very useful to form a sort of small general utility party, with a few simple tools, which could assist those who are unable to help themselves. Such a party might be especially valuable after a raid in helping with repairs to lightly damaged houses.

"It does not matter whether the family is in the country or in a town; whether they are scheduled for evacuation or dispersal. Wherever they are, these simple self-help measures should be practised in an emergency. Many of them—fire fighting and first aid for example—have a peacetime importance; but apart from this, there can be no question but that a nation's ability to come successfully through the survival period will be greatly enhanced if the population is self-sufficient. Their morale will be better and they will take an important burden off the shoulders of the Civil Defense and other organizations."



## Display of Emergency Hospitals

THE RECENTLY-developed Federal 200-bed emergency hospital went on display recently at two State Council of Civil Defense meetings, one at Butler and one at Reading. The hospitals were loaned by Region II, F.C.D.A. on an indefinite basis.

The display at Butler, supervised by the Western Area Civil Defense Headquarters, was arranged in conjunction with the Butler Veteran Administration hospital's tenth annual celebration of "Hospital Day" on May 6th. On this occasion a State Council of Civil Defense First Aid Station was also displayed.

Ross I. Webb, Western Area Director, also gave the public an opportunity to inspect the Western Area Control Center, staffed with its 70 volunteer civil defense workers, on the same date.

Opportunity to see the emergency hospital was given medical civil defense directors of the Eastern Area at a conference held April 25 at Reading. Principal speaker at this time was Dr. Arthur Welsh, Medical Coordinator for the State Council of Civil Defense.

The Berks County Civil Defense Council acted as hosts for this meeting at Berksheim Home. The meeting was attended by 147 persons, including doctors, nurses, medical technicians and civil defense directors.

An emphasis at the Eastern Area meeting was placed on improved county civil defense medical organizations. Dr. Franklin Reeder, Eastern Area Medical Director, gave comprehensive suggested plans for such organizations. Dr. Leroy A. Gehris and Dr. John Scully followed Dr. Reeder on the program and gave the Berks County plan for medical organization, which has been successful.

The State Council of Civil Defense recommends to all interested in organizing hospitals for civil defense, two publications by the American Hospital Association, 18 East Division Street, Chicago 10, Illinois. These are titled "Readings in Disaster Planning for Hospitals" and "Principles of Disaster Planning for Hospitals."

## RADIO APPOINTMENT

Paul D. Mercado, Eastern Area Radio Officer, recently was elected chairman of Region II, United States Civil Defense Amateur Radio Alliance. The Region embraces seven states and the District of Columbia.

## Fallout Plotting

A COURSE on "Fallout Plots and Interpretations" was held recently at Eastern Area Headquarters, State Council of Civil Defense.

Instructing the course was Col. Edwin H. Feather, State Training Director. Of 19 Eastern Area counties, 12 sent representatives to the meeting.

The Weather Bureau coded messages were explained and interpreted. A typical fallout message was plotted.

Following the training session, the Eastern Area Director announced a weekly fallout "problem" to be presented to all counties in the area. The new policy, effective early in May, involves the following steps:

(a) One fallout message weekly is selected from those transmitted twice daily by the U. S. Weather Bureau. This is passed along to the Eastern Area Radio Officer.

(b) This information is disseminated each Sunday morning at 8:30 A. M. on the Area Races Net—by no other means. Thus, it is a weekly training exercise for "ham operators."

(c) County Radio Officers pass the messages to County Civil Defense Directors, who in turn refer them to the Technical Advisor of the Staff.

(d) Staff personnel plot the fallout data and submit to the State Training Director.

(e) Charts are verified and corrected and returned to County Civil Defense Directors.

Colonel Feather outlined a proposed state-wide training program in Radiological Defense. This program, he said, would be instituted shortly.

## Manual on "Disaster Control"

An excellent, up-to-date text on Disaster Control for industrial plants was published in February by The American Machinist.

The manual is thought to be one of the finest to aid Plant Civil Defense Coordinators, Emergency and Disaster Planners, Safety Officers, Industrial Relations Directors and others interested in industrial safety.

The publication is available from McGraw Hill Publishing Co, Inc., 330 W. 42nd St., New York 36, N. Y., and sells for 50 cents per copy. Reductions are allowed for bulk orders.

## Local News Sheets

Many county and local civil defense organizations now are publishing, either in printed or mimeographed form, a News Sheet, many issued monthly. One has the clever title: "Our Guided Missile."

## FALLOUT DEFINED

A lady civil defense worker, bewildered by a speaker's repeated references to "fallout" had this remarkable conception of the meaning of the word:

"Fallout is when one member of civil defense cannot for some reason show up for duty."

## Welcome, New Directors

### WESTERN AREA

Mr. Kenneth J. Wigton, R. D. #1, Freedom, Pa.; Dr. Arthur P. Vincent, Center Street Extension, Slippery Rock, Pa.

### CENTRAL AREA

Mr. James E. Allen, 138 East Main Street, Canton, Pa.; Mr. Kenneth Wilton, 940 Caroline Street, Nanty Glo, Pa.; Mr. Marlin W. Way, DuBois, Pa.; Mr. Kenneth Martin, 25 Scrafford Ave., Shippensburg, Pa.; Mr. Willis Potter, Coudersport, Pa.

### EASTERN AREA

Mr. Ralph E. Levensgood, Douglassville, Pa.; Mr. George Bird, R. D. #1, Moscow, Pa.; Mr. LeRoy Sebring, R. D. #3, Stroudsburg, Pa.; Mr. G. Wilbur Knott, 205 North Main Street, Shenandoah, Pa.

## THE ICE HYDRANT

(Continued from page 2)

the hose was covered with diesel oil, with no evidence of damage. Methyl alcohol was used to remove all trace of the oil after the test.

A tight-fitting, well-insulated cover for the ice hydrant will cut down the formation of ice and prevent humans or animals from falling into the oil-filled hole.

A six-foot long ice chisel or bar and an eight- to 12-inch mesh strainer should be stationed near each hydrant for clearing and removing ice from the cylinder.

Until an oil-tight cover is developed for attachment to the intake end of the hard suction hose, the initial discharge of water should not be played on a fire. Such oil as enters the hose is cleared in a matter of seconds after pumping has started.

Before a thaw, the oil in the ice hydrant should be removed or burned to avoid water contamination or harm to fish or wildlife.

Please report change of address to THE KEYSTONE DEFENDER promptly. This saves time and money. Our address: State Council of Civil Defense, Quakertown, Penna.



## SAGE

(Continued from page 1)

will be no "absolute" or 100 per cent defense.

The SAGE system, a major step in the attempt of the defense to catch up with the speed and power of the offense, was described for the press recently. They described SAGE as a mating of man and machine. They viewed it as a semi-automatic means of determining the location of aircraft, of calculating, intercepting courses and of controlling the interceptors or other weapons. The "GE", or ground environment part of the SAGE abbreviation, refers to the location on the ground of the SAGE system. The heart of it, electronic consoles, radar screens, complex calculating machines and a maze of communications, plus the necessary command facilities, will be housed in three-floor windowless, reinforced concrete buildings 100 by 140 feet, called direction centers.

This installation is so bulky that in its present form it cannot be installed except on the ground. Admiral Cochran said, however, that he believed that in time it could be compressed for shipboard use.

SAGE is something like a telephone-answering service, only incredibly more complex. It receives, collates and processes information or data, works out the answers and informs the commander of an air defense subsector, and the intercepting weapons assigned, of the solution required.

Large search radars and smaller unattended gap-filling ones in a defense area are connected by telephone land lines or radio microwave relays to the direction center, one of which will control each defense subsector.

The location, courses, speeds and altitudes of aircraft anywhere within range of these radars is automatically and continuously relayed to the direction center. There this information is displayed on radar screens set into large electronic consoles.

This information is also fed into a complex electronic digital computer, described as "among the largest and most reliable \* \* \* yet built," now being produced for the services by the International Business Machines Corporation. This is called by the services the ANFSQ-7 computer.

The data fed into these machines include much more information than that provided by ground-based radar alone. Ground Observer Corps reports, flight plans of friendly planes, weather information, radar sightings from Texas towers, radar picket ships

and airborne radar are received, digested and assembled. The computer translates all this information into a composite picture of the complete air situation, and displays this situation on radarscopes. Here man, still invaluable because of his capability of making judgments, communicates those judgments to the machine. He does this by pushing various buttons on the console keyboards before him, and by using a photo-electric cell or "light gun" directly against the face of the scope.

The end result of all this is almost instantaneous aid to the air commander in identifying aircraft and in helping the commander decide the best weapons to use against unidentified aircraft.

After an interceptor takes off it is guided by the computer, through radio link and automatic pilot, on the correct course, speed and altitude for interception. The pilot may have to exercise judgment if something goes wrong, but if all goes well he merely takes the plane off, goes along for the ride and lands the plane again.

In this system, the machine provides tremendous speed—some of its processes occur in six one-millionth of a second—plus reliability. The computer does not become, like men, "bored or tired" with repetition. But men must still monitor and supervise; the machine cannot improvise and meet a new and unforeseen situation without man's judgment.

Under the new semi-automatic system, which will replace in continental air defense the present manually operated control system, time, rather than manpower will be saved.

SAGE also will be able to "handle" far more enemy attacks than is possible with the present system. Hence "sturation" of our air defenses will be more difficult.

But SAGE is not perfect. It can be jammed by enemy electronic measures. And absolute identification of all aircraft will not be possible unless all friendly planes carry special "transponders" or radar identification equipment.

SAGE is expensive. Its estimated installation cost is more than \$1,000,000,000 for thirty-two direction centers. About \$240,000,000 is needed annually for ten years for lease of the communication land lines and microwave relays essential to its functioning. It has, however, some possible commercial application. With adaptations, the system could be used to handle commercial air traffic.

(The above was cited by the Defense Department as the "best public statement to date" on the subject.)

## Auxiliary Police Served in Missouri Tornado

AN EXCELLENT example of the efficiency of Civil Defense during a natural disaster was shown when 100 Civil Defense Auxiliary Policemen and Policewomen were called into action following the tornado that did heavy damage in the Lemay-Affton area of St. Louis County on February 25. Over an approximately five-square-mile area scores of homes were damaged, and where the damage was heaviest, where roofs were lifted off and valuables strewn over yards and streets, the looters moved in early. County Police Superintendent Alber E. DuBois called out the CD Auxiliary Police, granted them arrest powers, and had them barricade the area to sightseers. St. Louis County Civil Defense Director Charles Skow said, "It was wonderful to see how our Auxiliary Police, both men and women, took over the duties assigned them. It gave the public a chance to see at first-hand the importance of CD training." Director Skow and Mr. Luman F. Matthews, Superior of St. Louis County, have received a number of letters congratulating the Civil Defense workers. Excerpts from a letter written by Mrs. Jessie L. Shepard: "I would like to express to you, as Supervisor of that splendid group of people—the Civil Defense workers—who turned out during and after the Lemay tornado, our heartfelt thanks . . . Whoever is responsible for the training of these people should certainly be complimented; everything was handled without panic, in an orderly efficient way . . . there is a world of difference in the appearance of the vicinity, thanks to this fine service. I ask that you convey our deepest appreciation to each and every one responsible for this volunteer service—may it long continue!"

### THE NEW SIGNALS

(Effective June 1, 1956)

THE "ALERT" SIGNAL: A steady, nonfluctuating blast on sirens, horns or whistles, lasting from 3 to 5 minutes in all; and

THE "TAKE COVER" SIGNAL: A wailing, or "warbling," siren tone, a series of short blasts on horns or whistles, or a combination, lasting a total of 3 minutes.



## GOOD HEALTH

(Continued from page 1)

**Iodine.** To purify small quantities of water, if the water is reasonably clear and there is no reason to suspect heavy contamination, 3 drops of regular (mild) tincture of iodine, added to 1 quart of water will make it safe. In water suspected of being very much polluted, 10 drops of regular (mild) tincture of iodine will be sufficient. Mix and allow to stand for 30 minutes.

### Wells

Samples of water will be tested by the State Department of Health, but only if the samples have been collected by a Department representative (who will use the approved methods and proper containers for obtaining samples). Also, a Department representative will not collect or test samples from wells into which flood waters may have flowed, unless before testing the well first has been disinfected by the method described below:

### How to Disinfect Wells

Wells and springs poorly protected and permitting the entrance of surface water, and also wells tested and declared "not safe" before the emergency, cannot be made safe by disinfection.

Properly constructed and protected wells, of ordinary size, can be disinfected most easily by emptying the contents of a pint bottle of household bleach into such a well. Let stand for 12 hours, then pump off until the taste of chlorine is no longer unpalatable. This should be sufficient to disinfect its contents. Follow the test described previously for noticing the chlorine smell before using the water.

In the case of extremely large wells the same method is followed, excepting that proportionally larger doses of the disinfectant are needed.

It is important that the disinfecting solution mix with water in the bottom of the well.

Let the water in the well settle overnight, and draw water from the top of the pool.

### Food

Any prepared or already-cooked food, if not enclosed in an air-tight container, should be destroyed before any use is made of it—if there is any possibility that it has been touched or covered by flood waters.

**Vegetables** that have been made unsafe in this way may be eaten *after* cooking if first thoroughly washed in a disinfecting solution and then thoroughly cooked by boiling 20 minutes.

Sediment and other unclean matter is deposited by flood waters. Because this tends to cling to inner surfaces of leafy vegetables (lettuce, spinach, etc.) and is difficult to remove, it is recommended that these vegetables *not* be eaten if they have been made unsafe in this way. *No* vegetables that have been touched or covered with flood waters should be eaten raw.

**Meat** which is not in air-tight containers or which has been entirely or even partially submerged should not be eaten until washed in a disinfecting solution, then rinsed, and cooked until "well done".

If it is known or suspected that cans, bottles or other containers of foods or beverages in the home have been touched or covered by flood waters the containers should not be opened nor should the food or beverage be consumed until a Health Department representative can declare it safe to do so.

In general, canned or bottled foods or beverages in containers which have not been damaged or broken open usually are safe for consumption but it is important that the outside of these containers be sterilized before opening. This can be done by dipping or washing the container in a disinfecting solution of household bleach or hygienic solution in the proportions recommended on the label of the bottle. Since the disinfecting solution is likely to corrode the metal of the container in time, this disinfecting process should be followed at once by rinsing in water that is known to be safe.

Bottled goods that have been submerged generally will be found to have a sediment ring adhering to the closure cap and the bottle where the two are in contact. This sediment must be carefully removed, before using the bottle's contents, in order to avoid contaminating the contents. The safest thing to do is to discard all bottled goods that have been water soaked.

Foods in paper or cardboard containers that have been submerged should be destroyed.

**Note:** Even after the containers themselves have been disinfected in the manner recommended above, the food contents should not be used until after they have been cooked thoroughly.

**Milk.** If there is any question about the safety of the milk supply, all milk should be boiled. This can be done by pouring the milk into an open saucepan and bringing quickly to a boil, stirring constantly. Under no circumstances should raw, unpasteurized, milk be used.

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## NERVE GASES

Had it not been for the insect pests around us the Germans may not have come up with the world's deadliest gases in World War II. It was an insecticide, not a poison gas, that was sought by scientists.

In 1932 a German chemical journal described some purely academic research upon a group of organ compounds containing both fluorine and phosphorus—and it was noted that inhalation of the vapors of these substances for a few minutes might lead to difficulty in breathing, disturbances in vision and even loss of consciousness.

Samples were tried out on animals and it was shown that the compounds were highly toxic and had an unusual rapidity of action. It was observed during these experiments that if a little of the vapor was inhaled by man, a curious feeling of tightness was felt in the throat and it was thought desirable to find out whether or not this effect was intensified by more severe exposure.

Human volunteers were enlisted, but the throat effects were not found important. The volunteers dispersed, but very soon returned as they found that the pupils of their eyes had contracted to pinpoint size and that there was interference with the focusing. The small pupil size had the effect of making the victim think that the sky had suddenly become heavily overcast, although the sun was still shining.

A study of some of the symptoms produce, such as pin-point pupils in man, blood-smeared tears in rats, excessive salivation and muscular twitching in rabbits, and so on, suggested that the victims were being poisoned by an excess of a chemical which is actually made in the body and plays an essential part in the working of the nervous system, rather than directly poisoned by the drug administered.

The studies were continued and eventually nerve gases were born.

## CUMBERLAND RALLY

About 1500 persons packed Cumberland Valley High School Auditorium for the third annual Cumberland County Civil Defense Rally on April 4th.

Rear Admiral S. R. Edson, commanding officer of Mechanicsburg Naval Supply Depot, was guest speaker. He described Cumberland County as "one of the outstanding Civil Defense-minded communities in the Nation."

Dr. Richard Gerstell, State Civil Defense Director, also appeared on the program. President Judge Dale E. Shughart of Cumberland County was master of ceremonies. An estimated one million dollars worth of armed forces and civil defense equipment was on display.



## GOOD HEALTH

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Canned and powdered milk are safe items if handled carefully (but see caution regarding paper or cardboard containers, above). However, once a can of milk is opened or dry milk is reconstituted, it becomes as perishable as other milk. Unless it is kept under refrigeration, it should be stored carefully and used within 3 hours (in which case there is little danger) but after three hours have elapsed without refrigeration the milk should be scalded before using.

Refrigerators and home freezer units should be kept closed as much as possible, especially once the electric current has been cut off. The foods they contain will keep longer if you don't open the doors any oftener than necessary. If the electric service is not restored within 12 hours, eat or cook the most perishable items in your refrigerator (including milk) before they spoil. If you have no way of cooking them, throw them out before they spoil other foods that keep better.

Home freezer units will keep frozen food for about 36 hours after their supply of electric current is shut off. Frozen meats and other frozen foods can be preserved for later use only by cooking them as soon as they begin to thaw. Frozen foods spoil very quickly after thawing. Once thawed, they should not be refrozen until they have been cooked first.

Dry ice, if obtainable, will help preserve foods if the foods are placed close to the dry ice in refrigerators, home freezer units, or tightly closed cardboard boxes.

### *Privies*

Privies should be cleaned and their contents treated by sprinkling with a chlorine solution made by mixing a cupful of bleaching solution or hygienic solution in a gallon of water.

The contents of the privy, removed while cleaning or renovating the privy, should be disinfected (by thorough sprinkling with the chlorine solution of the strength just described) and then buried. The vault itself should be disinfected in the same manner and covered with soil if the privy is no longer to be used.

### *Rubbish*

Exposed rubbish and garbage are potential sources of disease and are breeding grounds for disease-carrying animals, rodents, and insects.

All rubbish should be treated and disposed of in the same manner as garbage, using approved sanitary land-

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fill methods (including burial under at least one foot of earth).

If for some reason it is not possible to bury the rubbish in this recommended manner it should be burned and all rubbish remaining after the burning should be covered with earth to the depth of one foot or more.

### *Disinfecting Homes, Cellars, etc.*

All silt, mud and debris must be removed, and floor and wall surfaces first washed down with water. All walls and floors which have been flooded then should be scrubbed thoroughly or washed down again, this time with a solution containing chlorine.

This solution can be made most easily by adding household bleach, or a hygienic solution such as Zonite, to a bucket or pail of water, in the proportions recommended on the label of the bottle. There is no danger of making the solution too strong for this purpose.

Cellars which remain damp and any other places which appear to need such treatment should be sprinkled with a solution of chlorine.

### *Clothing, etc.*

All clothing, bedding and other similar materials may be disinfected by (1) boiling, preceded by a period during which the materials are soaked in a chlorine solution, or (2) by boiling alone.

Articles to be soaked should be covered completely with the chlorine solution, and kept below the surface of the solution for 30 minutes before washing, rinsing, or drying. During these 30 minutes the chlorine odor should be strongly noticeable.

It should be recommended that the solution of chlorine will act as a bleach on colored materials.

This soaking solution of chlorine can be made by using household bleach

or a hygienic solution in the proportions indicated on the label of the bottle.

Materials which cannot be soaked without objectionable fading, or which it is not desirable to boil, should be washed with soap and hot water and exposed to sun and air for several hours. Pressing with a hot iron will serve to help disinfect clothing and destroy any insects that may have lodged in the material.

In disinfecting by boiling, the actual boiling should be not less than 20 minutes.

## Snowbound Victims Aided

A BERKS COUNTY Civil Defense organization aided an estimated 300 snowbound persons at Morgantown, along the Pennsylvania Turnpike, during the "surprise" late March snowstorm.

The *Reading Eagle* reported that Civil Defense, spearheaded by Henry Stoltzfus, director for Caernarvon Township, found shelter and food in an area that had no commercial facilities.

Cots were set up at Churchtown, Honeybrook and nearby areas for the stranded tourists. Many of the cots came from a local American Red Cross warehouse, it was reported.

Constable Charles Byler was cited as having gone beyond his duty in rising at 5:30 A. M. to prepare a breakfast of coffee and toast for the travelers.

Also aiding in the project were Dr. Noah Mack, Medical Division; Fire Chief James Detweiler, and Mrs. Mary McNeal, Welfare Division.

The work of the Civil Defense group was quickly recognized by Berks County Civil Defense Director Charles S. Adams and Executive Director, Mrs. Marguerite Voss Osman.

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